REMARKS

Claims 1-15 are in the application as filed. The claims have been amended. Claims 16-17 are added.

DOUBLE PATENTING REJECTIONS

Claims 1 and 5-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over 10/775,785. A terminal disclaimer related to this provisional rejection is attached to this response.

REJECTION UNDER 35 USC 112

Claims 1-15 are rejected as indefinite under 35 USC 112, second paragraph. The Examiner found it unclear as to what is meant by "functional material". The "functional material" has been replaced with the term "conductive functional material". Claims 8 and 10 are rejected for improper Markush language. Comprising has been replaced with "consisting of" and the proper Markush language is now used.

REJECTION UNDER 35 USC 102(b)

Claims 1-2, 4-8, 11-13 and 15 were rejected as anticipated by DE 19846096. This German reference is also directed to nano-sized materials, i.e. . . . up to 100 nm. The above amendments also avoid this DE 19846096 reference.

Claims 1, 4-6, 9-12 and 14-15 are rejected as anticipated by Noguchi et al (US 5,798,397). This citation is in non-comparable art (recording media). Noguchi does not disclose the present conductive functional materials and the processes differ. Further it does not appear to duplicate ink jet printing nor does it achieve the fired line width's and thicknesses applicant demonstrates in its Examples.

Claims 1, 4-8 and 11-15 are rejected over Loria et al. US 5,443,628. Again, applicant respectfully disagrees. Loria dscloses very low amounts of functional material 0.2-2 wt. %. Applicant' levels are higher. Also, there is no indication in Loria that it can achieve the line thicknesses and widths that applicants achieve via the process disclosed herein.

REJECTIONS UNDER 35 USC 102(e)

Claims 1-4, 11-13 and 15 are rejected under 35 USC 102(e) as anticipated by Hirai (US 2003/0146019). Hirai is cited as disclosing ink jet ink comprising 1-50% conductive functional material such as gold, silver, copper and cobalt.

Applicants respectfully disagree that their claims arc anticipated by Hirai. Hirai discloses a composition with nano-sized particles. Applicant has, in the present amendment,

restricted the size of its functional material in claim 1 to a particle size of greater than 0.1 to 1.2 microns (see specification at p. 5). In a dependent claim, applicant has restricted the particle size to a range of 0.3 to 0.8 microns for an average particle size (D50).

Claims 1-8 and 11-15 were rejected under 35 USC 102(e) as anticipated by Kodas et al. (US 2003/0175411).

Kodas et al described ink jetting **precursor** compositions of electronic conductor, resistor and dielectic compositions. The precursors are soluble organometallic materials. The precursor solution of Kodas refers to a precursor or mixture of precursors dissolved in a solvent. Kodas et al also mentioned that nano-sized particles could be mixed with precursor compositions. Applicant's claims are directed to a method using jet compositions **with large particles and a low viscosity,** at the same time. Applicant's conductive functional materials are not metal precursors. Applicant directs the Examiner's attention to Paragraph's 0078 to 0118 of Kodas et al. In Kodas, the "precursor compositions . . . exploit combinations of solvents and precursors that advantageously provide high solubility of the molecular precursor while still allowing low temperature conversion of the precursor to the conductive phase. Kodas et al is not ink jetting the conductive material of the present invention. It is ink jetting a precursor solution.

Claims 1 and 4-6, 8-9 and 11-15 are rejected as veing anticipated under 35 USC 102(e) by Tucker (US 203/0119943). Tucker was said to disclose a method of printing inkjet ink onto a substrate by ink jet printing. The substrates include a plastic substrate.

Applicant respectfully disagrees that the claims are anticipated by Tucker. Applicant respectfully asserts that Tucker can be seen as non-analogous art. It is teaching a composition for use in creating colored contact lens. There is no teaching in this reference of creating an electronic circuit. In Tucker, the colorant is a dye or pigment (the reference lists some metal oxides). Tucker does not teach the use of an electrically functional material (conducting materials) such as some of applicant's disclosed conductors. Furthermore, even the pigment content in Tucker is limited to a max. of 15%. Applicant's conducting materials content can be over 15% to 60% by weight total composition. See new Claim 16.

REJECTION UNDER 35 USC 103

Claim 2 is rejected as obvious over Hirai (US 1003/01/46019) or Loria et al. (US 5,443,628) in view of Ep 1223201.

Applicants respectfully disagree that their claims are anticipated by Harai, Loria or Ep. Hirai discloses a composition with nano-sized particles. Applicant has, in the present

amendment, restricted the size of its functional material in Claim 1 to a particle size of greater than 0.1 to 1.2 microns (see specification at p. 5). In a dependent claim, applicant has restricted the particle size to a range of 0.3 to 0.8 microns for an average particle size (D50). In claim 1 we have also indicated that D100, the maximum particle size of the functional material (now conductive material) is 5 microns or less.

Claim 3 is rejected as obvious over Hirai (US 1003/01/46019) or Loria '628 in view of either Grant et al (US 6,555,205) or Kodas et al.(US 2003/0175411). We have discussed these three references above. Neither alone nor in combination, these references do not teach the presently claimed methods.

The Examiner notes that one difference between the present application and Hirai and Loria is a pretreating step. Grant and Kodas are cited as modifying the substrate. It is clear that the cited references do not produce the currently claimed process.

Claim 8 is rejected as unpatentable over Hirai in view of Zhu et al. (US 6,241,175).

Claim 10 is rejected over Tucker in view of Adkins. We have already discussed the differences between the present method and Hirai and and Tucker. Tucker is a non-analagous process. Tucker can be seen as in a slightly different art. It is teaching a composition for use in creating colored contact lens. There is no teaching in this reference of creating an electronic circuit. In Tucker, the colorant is a dye or pigment (the reference lists some metal oxides). Tucker does not teach a process of using of an electrically conducting functional material such as some of our disclosed conductors. (See spec. p. 4).

In view of the foregoing discussion, allowance of the Claims 1-16 is respectfully requested.

If anything further is needed to advance the allowance of this application, the Examiner is urged to contact applicant's attorney at the telephone number below.

Respectfully submitted,

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